

A longitudinal study of adolescent drink driving and other risk taking behaviors : challenges for the change process

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Abstract

Risk taking is a major contributing cause of injury, particularly with respect to the trauma experienced by young male adults. A report by the Australian Institute of Health and Welfare in 1999, called *Australia's Young People – their Health and Wellbeing 1999* 1, found that more than two thirds of deaths in young people were attributable to some form of injury, including road crashes and suicide. The focus and methods best able to effect change and reduction in at-risk attitudes and behaviours leading to injury remain understudied, although it is clear that the development of interventions to reduce risk related behaviours is exceedingly complex.

The first section of this paper reports on analyses of data from a series of longitudinal studies of drink driving and associated behaviours. It follows a cohort of 4,500 adolescents from junior high school [aged 14.5 years] until their mid-twenties. The analyses aim to answer five key questions derived from the literature regarding risk taking.

Are sub-groups of high-risk takers characterised by the same attitudes and decision-making strategies regarding risks as the normative group?

Do these characteristics remain consistent predictors of high-risk-takers: (i) over time and (ii) regardless of the types of risky behaviour?

What are the protective factors that emerge for the majority of risk takers in adolescence and can these be used to inform the content and targeting of relevant interventions?

What social, family and personal factors lead to the lower levels of risk taking by females and can these be used to inform road safety interventions?

Are the young people who experience one type of injury (for example, MVA), more likely to experience injury from other causes (for example, criminal behaviours, licit and illicit drug use and suicide)?

The second section of the paper discusses the application of these findings to the development of an intervention for young high “risk takers” to reduce behaviour that “harms self or others”. In particular, it highlights the need to move from sole reliance on classroom based programs to much more broadly targeted interventions that develop the protective role of mentors in the young person’s social context.

Background

A report on *Australia's Young People – their Health and Wellbeing 1999* found that more than two thirds of deaths in young males were attributable to some form of injury, including the two highest of transport related injury [25.5: 100,000] and suicide [24.0: 100,000] (p67, AIHW, 1999 1). Interpersonal violence, whilst considerably lower [2.3: 100,000] was the next most serious contributor. A similar pattern, though at considerably lower levels exists for young female injury. It is generally reported that risk taking is a major contributing cause, particularly with respect to the trauma experienced by young male adults. The focus and methods best able to effect change and reduction in at-risk attitudes and behaviours remain understudied, although it is clear that the development of interventions to reduce risk related behaviours is exceedingly complex. The core issue addressed by

this paper is whether it would be possible to identify young people who are likely to be engaged in high risk behaviours and to tailor prevention programmes to their needs. Such a question raises a major challenge in this area that is the need to identify whether there are sub-groups of so-called high risk taking young people and if so, the ways and means to increase their safety.

Viewed more generally in the context of stages in development adolescence is often cited as the most stressful and confusing period in a person's life. All young people will characteristically experiment with a variety of behaviours as a normal part of reaching maturity ². A study by Chang, Dixon and Hancock (2001) ³, which looked at the factors associated with risk taking behaviour in Western Sydney's young people, reported that young people perceived risk taking as a right of passage; that it is about testing the boundaries and is viewed as a normal part of adolescent development. It was argued that adults might take fewer risks because they have the knowledge and information gained by taking risks when they were younger, whereas adolescents do not comprehend the consequences of this type of behaviour³. It was also reported that while young people are usually aware of the illegality and/or danger associated with risk taking behaviour, many fail to appreciate the consequences of their actions.

The decision to engage in risk taking behaviours might, on the other hand, be also attributed to a young person's sense of invincibility. In a study by Hogg et al., (1993)⁴, it was found that young people underestimate their own susceptibility to a specific disease or a type of accident. They suggested that adolescents are optimistic and do not believe that they are vulnerable to danger, illness and injury. They also argued that it may be that young people do not wish to appear more concerned than their peers about the possibility of contracting a particular disease and so fail to protect themselves.

Several studies have demonstrated that self-presentational concerns, that is, the processes by which an individual attempts to control the images that they project during social interactions, might also play a role in the decision to engage in a variety of risk taking behaviours such as alcohol/other drug use, reckless usage of a motor vehicle, unsafe sex etc. Adolescents may, for example, use alcohol and other drugs as a means to convey an image desired by important reference groups (for example, their peers) and to project the right impression, i.e., as tough and independent. The use of risky behaviour may serve an impression management role because people associate certain images with their use ⁵. What is more, young people may also place themselves at risk of accidents and injuries as a result of being reluctant to engage in precautionary behaviours, such as seat-belt wearing that might cause others to perceive them as being excessively cautious. This motivation to control the impressions formed by others may be partly responsible for people engaging in image-projecting behaviours that are harmful to themselves and to others. The core role of peers and personal perceptions of vulnerability in adolescent risk taking underlies all these studies.

Research undertaken in evaluating a drink driving programme for young adolescents ⁶ indicates that there is an identifiable subgroup of young people who are particularly likely to engage in illicit behaviours that heighten the risk that they will be exposed to serious injury. This has been supported by the findings of two recent longitudinal studies ^{7,8}. These have identified an association of earlier alcohol consumption risk taking behaviours with traumatic injury related health problems being identified over time.

Objectives

The present analyses are drawn from research associated with the development and evaluation of the PASS drink driving/passenger prevention programme. The PASS program had been specifically designed as a class based intervention for the normative group of adolescents to act as a "psychological inoculation" against later involvement in at-risk behaviours. It was as part of this comprehensive study that the existence of a large minority of young people who were already engaged in risky behaviour and who continued

to behave in a way that exposed them to trauma and injury emerged. The present paper provides background information for the design of an intervention to reduce trauma and injury in this group. It aims to clarify the correlates of risk taking to assist in the development of interventions to reduce injury caused to self or others. The findings discussed here are an overview and consolidation of the data and analyses from three waves of a longitudinal study. Given the space and copyright constraints actual analyses and results are not presented. They are available on the CARRSQ web site subject to copyright requirements.

Methodology

In 1988, forty-one randomly selected high schools were drawn from a sample stratified to obtain equal representation of metropolitan, provincial and rural schools. Of the 5000 students sampled, a total of 4545 completed a questionnaire in the first data collection wave of the study [response rate of 90.9%]. The mean age of the respondents, who were in tenth grade, was 14.9 years and included 49.4% females. In the second wave of data collection, three years later, 2833 randomly chosen respondents were sent a follow up questionnaire and of these 1788 completed and returned it [response rate of 63%]. In the third wave of data collection, ten years after the first survey offences were extracted for all identifiable respondents from official state government transport and correctional services data bases and injury data from major hospital records.

High risk takers were defined on the basis of their involvement in drink driving at one or all of the three waves of the study. The normative group were defined as those respondents who had not reported taking part in a drink driving activity in the first wave survey.

Findings

The results and analyses reported here were guided by five core questions that were considered pertinent to the design of a targeted intervention. The questions are derived from the background literature and are examined separately.

1) Are sub-groups of high-risk takers characterised by the same attitudes and decision-making strategies regarding risks as the normative group?

Results from the first wave of the Longitudinal Study of Risk revealed that, compared to the normative group, high risk takers were:

- more likely to hold the belief that engaging in high risk behaviour [drink driving] is pleasurable [fun];
- less likely to hold the belief that they would get caught if they engage in high risk behaviours [drink driving];
- more likely to report negative attitudes to authority [parents, teachers, police], be more impulsive and to perceive more opportunities for risk taking;
- more likely to have parental and friendship norms supporting risk taking behaviour [parents, friends, siblings who drink drive and previous experience driving parent's car though unlicensed]; and
- more likely to report high alcohol use in association with high risk taking [drinking once a week or more often].

The Study did not examine drug taking due to ethical requirements of the state Education Department.

2) Do these characteristics remain consistent predictors of high-risk-takers: (i) over time and (ii) regardless of the types of risky behaviour?

Results from the Longitudinal Study of Risk Taking, revealed that:

- as noted previously attitudes towards risk taking behaviour are consistently and contemporaneously linked to behaviour; this finding held within the Wave1 and Wave2 data;
- these attitudes towards risk taking behaviour are unstable across time; attitudes at Wave1 did not significantly predict drink driving at Wave 2;and
- young people who were drink driving at wave1 [or not drink driving] were significantly more likely to be doing so at Waves 2 and 3. Risk taking behaviours remain relatively stable across time.
- disposition to risk taking as measured by heavy under age drinking is stable over time.

3) What are the protective factors that emerge for the majority of risk takers in adolescence and can these be used to inform the content and targeting of relevant interventions?

Results from the Longitudinal Study of Risk Taking revealed that:

- the main protective factor that emerged for risk takers in Wave 2 was higher levels of parental control/supervision at Wave 1; and
- other protective factors that predicted less likelihood of drink driving at Wave 2 included a lower certainty of intention to drink drive in the future at Wave 1 and experience of potentially adverse outcomes [including experience of being picked up by RBT] from the behaviour at Wave 2.

4) What social, family and personal factors lead to the lower levels of risk taking by females and can these be used to inform road safety interventions?

Data analysed from the Longitudinal Study of Risk Taking demonstrated that the social, family, and personal factors leading to lower levels of risk taking by females than males include:

- a lower disposition to risk taking;
- more positive attitudes towards authority;
- higher parental expectations of safe behaviour and closer parental supervision;
- increased consideration of the consequences of risk taking; and
- planning ahead to avoid risky behaviours.

5) Are the young people who experience one type of injury (for example, MVA), more likely to experience injury from other causes (for example, criminal behaviours, licit and illicit drug use and suicide)?

Data was obtained only recently from the relevant government departments on injury related hospitalisation incidents and adult criminal histories for the cohort from the Longitudinal Study of Risk Taking Study. Preliminary analyses at the time of submission of this paper replicates findings of other literature that:

- hospitalisation for one type of injury is significantly associated with other trauma and injury presentations;
- initial analyses of the criminal data also shows significant associations between drinking at least once a week at Wave 1 and adult drink driving;
- self reported delinquency at Wave 1 was also significantly related to convictions as an adult for drink driving, assault and theft.

Discussion and application to an intervention

An overview of the key issues raised by these analyses provides important directions for prevention programmes for these groups. It is clear that risk taking is not confined to one behaviour and that those with risk taking attitudes and attributes are likely to be at risk of

injury from more than one behaviour. Another strong finding that replicates other research within this area is involvement in high risk behaviours is associated with high levels of underage drinking. An important challenge is modifying the unsafe perceptions of the benefits and costs of at risk behaviours. A prevention programme would need to increase awareness of possible harm to self and others and the likelihood of being caught and punished. The more difficult associated challenge is to decrease the strength of negative attitudes to authority. In turn this links closely with the need to involve parental and other authority figures in mentoring and monitoring roles that are perceived as supervisory but are also protective. Finally, preventive strategies will also need to be directed towards changing family members' involvement in high risk behaviours and the associated modeling of these behaviours to adolescent males.

The new intervention will address the major causes of injury related fatalities which will be covered by the generic target of "harming self or others" including:

- Unlawful use of a motor vehicle (UUMV)
- Drink driving
- Assault and/or bullying
- Underage drinking (as a risky behaviour in itself and as a precipitant of associated risky behaviours)
- Drug/substance abuse

The intervention will be implemented as part of a recent initiative of the Education Department to lengthen compulsory schooling. This is called, Education Training and Reforms for the Future (ETRF) and will encompass the following relevant changes:

- An extension of compulsory schooling for all young people from 15 years until the end of year 10 or 16 years of age (whichever is sooner).
- Participation in education and training for a further two years; or until they have gained a Senior Certificate; or a vocational qualification; or until they have turned 17.

The proposed intervention will be linked to this initiative and will involve two related populations:

1. All 15 year old young people in school, TAFE, other training institutions or not engaged in any kind of "substantial work". This group contains a large proportion of high risk takers
2. Key adults who might perform a supervisory, mentoring or supportive role for the adolescent. These will include:
 - Parents in the home environment
 - Teachers, guidance officers and youth support workers in schools.
 - Peers and siblings as trainers in the programme.
 - School police officers and other members of the Juvenile Aid Bureau .
 - Referral agency staff for adolescents who are homeless and may not be in school who receive financial assistance.

How will the outcomes be measured?

Outcomes will be measured in terms of changes in behaviour, attitudes and knowledge of adolescents and of the individuals with key relationships to adolescents (that is, parents, teachers, guidance officers, adolescent support workers, social workers, police and other support agency staff).

Injury rates of adolescents will also be assessed. Rates will be measured by adolescent self-report data and validated with hospital data in a sub-sample. Permission will be sought from adolescents and their parents to access records of attendance at hospital emergency departments.

High risk adolescents are only rarely specifically considered in school based intervention settings. This project provides an opportunity to test a systematic and research based intervention and to provide information for evidence based policy development.

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